

Amendments to the Claims

1. (CURRENTLY AMENDED) A phase detector, wherein at least one differential signal of two input signals ($U_a; U_b$) may be formed over at least one predefined period by means of a first subtracter (12), at least one maximum value of the at least one differential signal may be detected by means of a first peak detector (16) and at least one minimum value of the at least one differential signal may be detected by means of a second peak detector (18) and at least one further differential signal (U_{out}) may be formed from the at least one maximum value and the at least one minimum value by means of a second subtracter (14).

2. (ORIGINAL) A phase detector as claimed in claim 1, characterized in that the phase detector (100) is monolithically integrated.

3. (CURRENTLY AMENDED) A phase detector as claimed in ~~any one of the preceding claims,~~claim 1 characterized in that the phase detector (100) is integrated into a smart card.

4. (CURRENTLY AMENDED) A phase detector as claimed in ~~any one of the preceding claims,~~claim 1 characterized in that at least one of the signals ($U_a; U_b; U_{out}$) to be processed is an electrical, audible or visual signal or the like.

5. (CURRENTLY AMENDED) A phase detector as claimed in ~~any one of the preceding claims,~~claim 1 characterized in that at least one of the signals ($U_a; U_b; U_{out}$) to be processed may substantially be described by a Fourier series.

6. (ORIGINAL) A method of phase detection, wherein at least one differential signal of two input signals is formed over at least one predefined period, at least one maximum value and at least one minimum value of the at least one differential signal is detected and at least one further differential signal is formed from the at least one maximum value and the at least one minimum value.

7. (ORIGINAL) A method as claimed in claim 6, characterized in that the formation of at least one difference is effected by means of a subtracter (14).

8. (CURRENTLY AMENDED) A method as claimed in ~~either one of claims 6 to 7,~~ claim 6 characterized in that detection of the at least one maximum value and/or of the at least one minimum value is effected by means of a peak detector (~~16,~~ ~~18~~).

9. (CURRENTLY AMENDED) A method as claimed in ~~any one of claims 6 to 8,~~ claim 6 characterized in that at least one of the signals to be processed is an electrical, audible or visual signal or the like.

10. (CURRENTLY AMENDED) A method as claimed in ~~any one of claims 6 to 9,~~ claim 6 characterized in that at least one of the signals to be processed may substantially be described by a Fourier series.